

IN THE CLAIMS

Listing of Claims

1-44. (Canceled)

45. (Previously Presented) A method for balancing the distribution of interference between radio cells in a wireless communication system, the system comprising a plurality of radio cells in which a plurality of subcarrier blocks is used for communication, wherein a number of adjacent radio cells build a cell cluster, wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets, and wherein each subcarrier block has the same subcarriers, the method comprising:

grouping said subcarrier blocks into a plurality of subcarrier block sets in each radio cell of the cell cluster,

determining a plurality of transmission power levels for each of the radio cells of said cell cluster, and

assigning the plurality of transmission power levels to the subcarrier block sets of one of the radio cells of the cell cluster by taking into account the assignment of the plurality of transmission power levels to the subcarrier block sets of the other radio cells of the cell cluster.

46. (Cancelled)

47. (Previously Presented) The method according to claim 45, wherein said plurality of transmission power levels is assigned to the subcarrier block sets of the radio cells of the cell cluster, such that:

in each radio cell of the cell cluster, each of said plurality of transmission power levels is mapped to one of the subcarrier block sets of a respective radio cell, and

each of said plurality of transmission power levels is mapped to one of said corresponding subcarrier block sets in the radio cells in of said cell cluster.

48. (Previously Presented) The method according to claim 45, wherein said plurality of transmission power levels is assigned to the subcarrier block sets of the radio cells of the cell cluster, such that:

in each radio cell of the cell cluster, each of said plurality of subcarrier block sets of a respective radio cell is mapped to one of the plurality of transmission power levels, and

each of said corresponding subcarrier block sets in the radio cells of said cell cluster is mapped to one of said plurality of transmission power levels.

49. (Cancelled)

50. (Previously Presented) The method according to claim 45, wherein offsets between the transmission power levels in a radio cell vary between the radio cells of the cell cluster.

51. (Previously Presented) A method for balancing the distribution of interference between radio cells in a wireless communication system, the system comprising a plurality of radio cells, each radio cell comprising at least two sectors, in each of which a plurality of subcarrier blocks is used for communication, wherein a sector of a radio cell and its adjacent sectors in neighboring radio cells build a sector cluster, the sector cluster comprising

corresponding subcarrier block sets having the same subcarrier blocks, each subcarrier block comprising a plurality of subcarriers, the method comprising the steps of:

grouping said subcarrier blocks into a plurality of subcarrier block sets in each of the sectors of each radio cell of said sector cluster,

determining a plurality of transmission power levels for each sector of each radio cell of the sector cluster, and

assigning the plurality of transmission power levels to the plurality of subcarrier block sets of one of the respective sectors of the sector cluster, by taking into account the assignment of the plurality of transmission power levels to the subcarrier block sets of the other sectors of the sector cluster.

52. (Cancelled)

53. (Previously Presented) The method according to claim 51, wherein said plurality of transmission power levels is assigned to the subcarrier block sets of radio cells of the cell cluster, such that:

in each sector of the sector cluster, each of said plurality of transmission power levels is mapped to one of the subcarrier block sets of the respective sector, and

each of said plurality of transmission power levels is mapped to one of said corresponding subcarrier block sets in said sector cluster.

54. (Previously Presented) The method according to claim 51, wherein said plurality of transmission power levels is assigned to the subcarrier block sets of radio cells of the cell cluster, such that:

in each sector of the sector cluster, each of said plurality of subcarrier block sets of the respective sector is mapped to one of the transmission power levels, and

each of said plurality of said corresponding subcarrier block sets in said sector cluster is mapped to one of said plurality of transmission power levels.

55. (Previously Presented) The method according to claim 53, wherein the mapping is a unique mapping.

56. (Previously Presented) The method according to claim 45, wherein the communication system comprises a plurality of communication terminals communicating with base stations associated to said plurality of radio cells of the cell cluster, the method further comprising:

measuring a path loss of a communication signal of a communication terminal and another path loss due to interference from adjacent radio cells for said communication signal, and

assigning the communication terminal to at least one subcarrier block of a subcarrier block set in a radio cell based on said measurement.

57. (Previously Presented) The method according to claim 56, further comprising determining a transmission power level for said communication terminal based on said measurement, and wherein the communication terminal is assigned to at least one subcarrier block of a block set based on the determined transmission power level.

58. (Previously Presented) The method according to claim 45, wherein the

transmission power levels in different radio cells of the cell cluster vary.

59. (Previously Presented) The method according to claim 45, wherein a subcarrier block set size of the corresponding subcarrier block sets is equal.

60. (Previously Presented) The method according to claim 45, further comprising reconfiguring the subcarrier block sets in a radio cell of the cell cluster.

61. (Previously Presented) The method according to claim 45, further comprising reconfiguring the transmission power levels in a radio cell of the cell cluster.

62. (Previously Presented) The method according to claim 60, wherein a reconfiguration of the power levels and/or the subcarrier block sets in the radio cell of the cell cluster is performed in accordance with the other radio cells of a cell cluster.

63. (Previously Presented) The method according to claim 60, wherein a reconfiguration of the power levels and/or the subcarrier block sets in the sector of the cell cluster is performed in accordance with the other sectors of a sector cluster.

64. (Previously Presented) The method according to claim 60, wherein the reconfiguration is based on channel quality measurements.

65. (Previously Presented) The method according to claim 45, further comprising signaling information related to a reconfiguration of the subcarrier block sets in a radio cell from

the radio cell of the cell cluster to at least one other radio cell of the cell cluster.

66. (Previously Presented) The method according to claim 45, further comprising signaling information related to channel qualities in a radio cell of the cell cluster from said radio cell of the cell cluster to at least one other radio cell of the cell cluster.

67. (Previously Presented) The method according to claim 65, further comprising signaling the information to a control unit in the communication system.

68. (Previously Presented) The method according to claim 56, further comprising signaling information related to a subcarrier block assignment and/or a subcarrier block set assignment to a communication terminal.

69. (Previously Presented) A base station for use in a wireless communication system, the system comprising a plurality of radio cells in which a plurality of subcarrier blocks is used for communication, wherein a number of adjacent radio cells build a cell cluster, and wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, the base station comprising:

a processing unit configured to group said subcarrier blocks into a plurality of subcarrier block sets in each radio cell of the cell cluster,

a determination unit configured to determine a plurality of transmission power levels for each of the radio cells of said cell cluster, and

an assignment unit configured to assign the plurality of transmission power levels to the subcarrier block sets of one of the radio cells of the cell cluster by taking into account the assignment of the plurality of transmission power levels to the subcarrier block sets of the other radio cells of the cell cluster.

70. (Previously Presented) The base station according to claim 69, wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarriers.

71. (Previously Presented) The base station according to claim 70, wherein said assignment unit is configured to assign said plurality of transmission power levels to the subcarrier block sets of radio cells of the cell cluster, such that:

in each radio cell of the cell cluster, each of said plurality of transmission power levels is mapped to one of the subcarrier block sets of a respective radio cell, and  
each of said plurality of transmission power levels is mapped to one of said corresponding subcarrier block sets in the radio cells in said cell cluster.

72. (Previously Presented) The base station according to claim 70, wherein said assignment unit is configured to assign said plurality of transmission power levels to the subcarrier block sets of radio cells of the cell cluster, such that:

in each radio cell of the cell cluster, each of said plurality of subcarrier block sets of a respective radio cell is mapped to one of the plurality of transmission power levels, and  
each of said corresponding subcarrier block sets in the radio cells of said cell cluster is mapped to one of said plurality of transmission power levels.

73. (Previously Presented) A base station for use in a wireless communication system, the system comprising a plurality of radio cells in which a plurality of subcarrier blocks is used for communication, wherein  $N$  adjacent radio cells build a cell cluster,  $N$  being an integer number of 2 or more, and wherein the  $N$  radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, the base station comprising:

    a processing unit configured to group said subcarrier blocks into  $N$  subcarrier block sets in each radio cell of the cell cluster, wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarriers,

    a determining unit configured to determine  $N$  transmission power levels for each of the radio cells of said cell cluster, and

    an assignment unit configured to assign the  $N$  transmission power levels to the  $N$  subcarrier block sets of radio cells of the cell cluster, such that:

        in each radio cell of the cell cluster, each of the  $N$  transmission power levels in the respective radio cell of the cell cluster is assigned to one of the  $N$  subcarrier block sets of said respective radio cell of the cell cluster, and

        each of the  $N$  transmission power levels is assigned to one subcarrier block set of corresponding subcarrier block sets within the radio cells of the cell cluster.

74. (Previously Presented) A base station for use in a wireless communication system, the system comprising a plurality of radio cells in which a plurality of subcarrier blocks is used for communication, wherein  $N$  adjacent radio cells build a cell cluster,  $N$  being an integer number of 2 or more, and wherein the  $N$  radio cells of the cell cluster each comprise

corresponding subcarrier block sets having the same subcarrier blocks, and wherein each subcarrier block comprises a plurality of subcarriers, the base station comprising:

    a processing unit configured to group said subcarrier blocks into  $xN$  subcarrier block sets in each radio cell of the cell cluster, wherein the radio cells of the cell cluster each comprise corresponding subcarrier block sets having the same subcarriers,  $x$  being an integer number of 1 or more,

    a determination unit configured to determine  $yN$  transmission power levels for each of the radio cells of said cell cluster,  $y$  being an integer number of 1 or more, and

    an assignment unit configured to assign  $yN$  transmission power levels to the  $xN$  subcarrier block sets of radio cells of the cell cluster, such that:

        in each radio cell of the cell cluster, each of the  $yN$  transmission power levels in the respective radio cell of the cell cluster is assigned to one of the  $x/N$  subcarrier block sets of said respective radio cell of the cell cluster, and

$y/x$  transmission power levels on average are assigned to one subcarrier block set of corresponding subcarrier block sets within the radio cells of the cell cluster.

75. (Previously Presented) A base station for use in a wireless communication system, the system comprising a plurality of radio cells, each radio cell comprising at least two sectors, in each of which a plurality of subcarrier blocks is used for communication, wherein a sector of a radio cell and its adjacent sectors in neighboring radio cells build a sector cluster, the sector cluster comprising corresponding subcarrier block sets having the same subcarrier blocks, each subcarrier block comprising a plurality of subcarriers, the base station comprising:

    a processing unit configured to group said subcarrier blocks into  $N$  subcarrier block sets in each of the sectors of each radio cell of said cluster, wherein each sector of a radio cell has  $N$ -

1 adjacent sectors in the other radio cells of the cell cluster, and wherein a sector of a radio cell and its adjacent sectors in said other radio cells each comprise corresponding subcarrier block sets having the same subcarriers,  $N$  being an integer number of 2 or more,

a determination unit configured to determine  $N$  transmission power levels for each sector of each radio cell of the cell cluster, and

an assignment unit configured to assign the  $N$  transmission power levels to the  $N$  subcarrier block sets of a sector of a radio cell and its adjacent sectors of said other radio cells, such that:

in each sector of the sector cluster, each of the  $N$  transmission power levels in the respective sector of the sector cluster is assigned to one of the  $N$  subcarrier block sets of said respective sector of the sector cluster, and

each of the  $N$  transmission power levels is assigned to one subcarrier block set of corresponding sectors of the sector cluster.

76. (Previously Presented) A base station for use in a wireless communication system, the system comprising a plurality of radio cells, each radio cell comprising at least two sectors, in each of which a plurality of subcarrier blocks is used for communication, wherein a sector of a radio cell and its adjacent sectors in neighboring radio cells build a sector cluster, the sector cluster comprising corresponding subcarrier block sets having the same subcarrier blocks, each subcarrier block comprising a plurality of subcarriers, the base station comprising:

a processing unit configured to group said subcarrier blocks into  $xN$  subcarrier block sets in each of the sectors of each radio cell of said cluster, wherein each sector of a radio cell has  $N-1$  adjacent sectors in the other radio cells of the cell cluster, and wherein a sector of a radio cell and its adjacent sectors in said other radio cells each comprise corresponding subcarrier block

sets having the same subcarriers, x being an integer number of 1 or more, and N being an integer number of 2 or more,

    a determination unit configured to determine  $yN$  transmission power levels for each sector of each radio cell of the cell cluster, y being an integer number of 1 or more,

    an assignment unit configured to assign the  $yN$  transmission power levels to the  $xN$  subcarrier block sets of a sector of a radio cell and its adjacent sectors of said other radio cells, such that:

        in each sector of the sector cluster, each of the  $yN$  transmission power levels in the respective sector of the sector cluster is assigned to one of the  $xN$  subcarrier block sets of said respective sector of the sector cluster, and

$y/x$  transmission power levels on average are assigned to one subcarrier block set of corresponding sectors of the sector cluster.

77. (Cancelled)

78. (Previously Presented) The base station according to claim 73, further comprising:

    a measuring unit configured to measure a path loss of a communication signal of a communication terminal and another path loss due to interference for said communication signal, and

    an assignment unit configured to assign the communication terminal to at least one subcarrier block of one of said subcarrier block sets based on said measurement.

79. (Cancelled)

80. (Previously Presented) A radio communication system comprising a base station according to claim 69 and a communication terminal in a wireless communication system comprising a receiver unit configured to receive information indicating a subcarrier block assignment and/or a subcarrier block set assignment, and

    a selection unit configured to select the signaled assigned subcarrier block and/or signaled assigned subcarrier block set for data transmission.

81. (Previously Presented) A base station for use in a wireless communication system, the system comprising a plurality of radio cells, each radio cell comprising at least two sectors in each of which a plurality of subcarrier blocks is used for communication, wherein a sector of a radio cell and its adjacent sectors in neighboring radio cells build a sector cluster, the sector cluster comprising corresponding subcarrier block sets having the same subcarrier blocks, each subcarrier block comprising a plurality of subcarriers, the base station comprising:

    a grouping unit configured to group said subcarrier blocks into a plurality of subcarrier block sets in each of the sectors of said sector cluster,

    a determination unit configured to determine a plurality of transmission power levels for each sector of the sector cluster, and

    an assignment unit configured to assign the plurality of transmission power levels to the plurality of subcarrier block sets of one of the respective sectors of the sector cluster, by taking into account the assignment of the plurality of transmission power levels to the subcarrier block sets of the other sectors of the sector cluster.

82. (Previously Presented) The base station according to claim 81, wherein the assignment unit is configured to assign said plurality of transmission power levels to the subcarrier block sets of radio cells of the cell cluster, such that:

in each sector of the sector cluster, each of said plurality of transmission power levels is mapped to one of the subcarrier block sets of the respective sector, and

each of said plurality of transmission power levels is mapped to one of said corresponding subcarrier block sets in said sector cluster.

83. (Previously Presented) The base station according to claim 81, wherein the assignment unit is configured to assign said plurality of transmission power levels to the subcarrier block sets of radio cells of the cell cluster, such that:

in each sector of the sector cluster, each of said plurality of subcarrier blocks sets of the respective sector is mapped to one of the plurality of transmission power levels, and

each of said plurality of said corresponding subcarrier block sets in said sector cluster is mapped to one of said plurality of transmission power levels.